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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,581	02/26/2002	Yu-Cheun Jou	020278	8984

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EXAMINER	
PATEL, NIRAV B	

ART UNIT	PAPER NUMBER
2135	

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/085,581	JOU ET AL.	
	Examiner	Art Unit	
	Nirav Patel	2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 February 2006 (Amendment)*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 3-6, 8, 9, 10, 20, 22-25, 27, 28 and 29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-6, 8, 9, 10, 20, 22-25, 27, 28 and 29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment filed on February 13, 2006 has been entered. Claims 1, 3-6, 8, 9, 10, 20, 22-25, 27, 28 and 29 are pending. Claims 2, 7, 11-19, 21, 26 and 30-38 are cancelled by the applicant and claims 1, 3-6, 8, 9, 10, 20, 22-25, 27, 28 and 29 are also amended by the applicant.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3, 5, 6, 10, 20, 22, 24, 25 and 29 are rejected under 35 USC 103 (a) for being unpatentable over Ragavan et al (US Patent No. 4,811,394) in view of Chan et al (US Pub No. 2002/0089935) and further in view of Johnson et al (US Patent No. 6,487,181).

As per claim 1, Ragavan teaches:

determining a scrambling sequence in accordance with a system time (i.e. clock signal) [*col. 4 lines 27-34* **"In the scrambler circuit of FIG. 1, a storage register 10, which may for example comprise a 22-bit storage register, stores the initial scrambling**

sequence value which is then loaded into a 22-bit PN sequence generator 12 in response to a start pulse. Having been loaded with this value, the sequence generator then proceeds to generate its PN sequence in response to a clock signal" Fig. 1]; and scrambling information bits (i.e. clear text) with the determined scrambling sequence **[Fig. 1].**

Ragavan teaches that generating the scrambling sequence in accordance with a system clock **[Fig. 1]**. Ragavan doesn't expressively mention that metric of system time. However, Chan teaches that metric of system time **[*paragraph 0047, lines 1-5* "a channel condition estimation metric may be calculated using one or more metrics including frame error rate (FER) metric, signal to noise ratio estimate (SNR) metric, energy per bit (Eb)/Thermal noise (Nt) estimate metric, and system time and/or finger time drift rate"].** Further, Chan teaches that the system time metric is a timing adjustment made for a given interval **(i.e. metric in accordance with interval) [paragraph 0054]**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Chan into the teaching of Ragavan to calculate metric using system time. The modification would be obvious because one of ordinary skill in the art would be motivated to generate metric for indicating the channel condition, which determines the optimal packet-size. An optimal RLP packet-size that equipped with CRC bits, so it prevents the RLP packet from getting rejected due to bit errors **[Chan, *paragraph 0007, lines 2-12*].**

Ragavan teaches that generating the scrambling sequence **[Fig. 1]** and Chen teaches the system time metric is a timing adjustment made for a given interval **[paragraph 0054]**. Ragavan and Chan don't expressively mention that a *subinterval of a system time interval (i.e. time slot or slot)* in which the information bits are to be transmitted. However, Johnson teaches that a *subinterval of a system time interval (i.e. time slot or slot)* in which the information bits are to be transmitted and determining the metric in accordance with a subinterval (i.e. time slot) ***[col. 2 line 38, 50-52, col. 8 lines 34-35].*** Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Johnson into the teaching of Ragavan and Chan to utilize the time slot (i.e. subinterval of the time interval). The modification would be obvious because one of ordinary skill in the art would be motivated to determine the metric based on the time slot (which contains the information) and determine the truncated time slot. The truncated time slot consume less power than the transmission of a completely filled time slot, and result in an increased rechargeable life of the power source **[Johnson, *col. 9 lines 23-28*].**

As per claim 3, the rejection of claim 1 is incorporated and Chan teaches that metric of system time **[*paragraph 0047, lines 1-5*].** Further, Chan teaches that the system time metric is a timing adjustment made for a given interval **(i.e. metric in accordance with interval) [paragraph 0054]**.

Johnson teaches that first subinterval of the system time interval (i.e. time slot or slot) **[*col. 2 lines 42-44* "first portion of the time slot", Fig. 2].**

As per claim 5, the rejection of claim 1 is incorporated and further Ragavan teaches that performing an exclusive-OR of the information bits (i.e. clear text) with the scrambling sequence **[Fig. 1 *col. 4 lines 34-35* "with the PN sequence being combined with clear text data in an Exclusive OR (EOR) gate"].**

As per claim 6, Ragavan teaches:

determining an unscrambling sequence in accordance with a system time (i.e. clock signal) **[*col. 4 lines 36-39* " in the descrambler circuit of fig. 2, a similar 22-bit storage register 20 stores a initial scrambling sequence value which is loaded into an identical 22-bit PN sequence generator 22 in response to a start pulse, Fig. 2]**; and

unscrambling information bits with the determined unscrambling sequence **[Fig. 2].**

Ragavan teaches that generating the unscrambling sequence in accordance with a system clock **[Fig. 2]**. Ragavan doesn't expressively mention that metric of system time. However, Chan teaches that metric of system time **[*paragraph 0047, lines 1-5*].** Further, Chan teaches that the system time metric is a timing adjustment made for a given interval **(i.e. metric in accordance with interval) [paragraph 0054]**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Chan into the teaching of Ragavan to calculate metric using system time. The modification would be obvious because one of ordinary skill in the art would be motivated to generate metric for indicating the channel condition, which determines the optimal packet-size. An

optimal RLP packet-size that equipped with CRC bits, so it prevents the RLP packet from getting rejected due to bit errors **[Chan, *paragraph 0007, lines 2-12*].**

Ragavan teaches that generating the unscrambling sequence in accordance with system clock **[Fig. 2]** and Chen teaches the system time metric that is a timing adjustment made for a given interval **[paragraph 0054]**. Ragavan and Chan don't expressively mention that a first *subinterval of a system time interval* preceding a second subinterval of the system time interval by a pre-determined number of subintervals, the second subinterval including information bits.

However, Johnson teaches that a first *subinterval of a system time interval* preceding a second subinterval of the system time interval by a pre-determined number of subintervals **[Fig. 2, col. 3 lines 62-67, col. 4 lines 1-2]**, the second subinterval including information bits (user information) **[Fig. 2, col. 3 lines 65-67]** and determining the metric in accordance with subinterval (*i.e. time slot or slot)* **[*col. 2 lines 50-52, col. 8 lines 34-35*].**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Johnson into the teaching of Ragavan and Chan to utilize the time slot (i.e. subinterval of the time interval). The modification would be obvious because one of ordinary skill in the art would be motivated to determine the metric for time slot (which contains the information) and determine the truncated time slot. The truncated time slot consume less power than the transmission of a completely filled time slot, and result in an increased rechargeable life of the power source **[Johnson, *col. 9 lines 23-28*].**

As per claim 10, the rejection of claim 6 is incorporated and is rejected for the same reason set forth in the rejection of claim 5 above.

As per claim 20, it is an apparatus claim corresponds to a method claim 1 and is rejected for the same reason set forth in the rejection of claim 1 above.

As per claim 22, the rejection of claim 21 is incorporated and further claim 22 is an apparatus claim corresponds to method claim 3 and is rejected for the same reason set forth in the rejection of claim 3 above.

As per claim 24, the rejection of claim 20 is incorporated and further claim 24 is an apparatus claim corresponds to method claim 5 and is rejected for the same reason set forth in the rejection of claim 5 above.

As per claim 25, it is an apparatus claim corresponds to a method claim 6 and is rejected for the same reason set forth in the rejection of claim 6 above.

As per claim 29, the rejection of claim 25 is incorporated and further claim 26 is an apparatus claim corresponds to method claim 5 and is rejected for the same reason set forth in the rejection of claim 5 above.

3. Claims 4, 9, 23, and 28 are rejected under 35 USC 103 (a) for being unpatentable over Ragavan et al (US Patent No. 4,811,394) in view of Chan et al (US Pub No. 2002/0089935) in view of Johnson et al (US Patent No. 6,487,181) and further in view of Wei et al (US Patent No. 6,348,876).

As per claim 4, the rejection of claim 1 is incorporated. Ragavan, Chan and Johnson don't expressively mention that mapping of the metric on the scrambling sequence.

However, Wei teaches the mapper (i.e. to map the metric on the scrambling sequence) **[Fig. 7 *col. 6 lines 59-61* "the scrambled data is then, in block 704, divided into symbols that are mapped to signal point in the QAM constellation"].**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Wei into the teaching of Ragavan, Chan and Johnson to utilize the mapper for mapping the metric on the scrambling sequence. The modification would be obvious because one of ordinary skill in the art would be motivated to map the data or symbols to signal point or information using the mapper **[Wei, *col. 6 lines 59-60*]**.

As per claim 9, the rejection of claim 6 is incorporated and is rejected for the same reason set forth in the rejection of claim 4 above.

As per claim 23, the rejection of claim 20 is incorporated and further claim 23 is an apparatus claim corresponds to method claim 4 and is rejected for the same reason set forth in the rejection of claim 4 above.

As per claim 28, the rejection of claim 25 is incorporated and further claim 28 is an apparatus claim corresponds to method claim 4 and is rejected for the same reason set forth in the rejection of claim 4 above.

4. Claims 8 and 27 are rejected under 35 USC 103 (a) for being unpatentable over Ragavan et al (US Patent No. 4,811,394) in view of Chan et al (US Pub No. 2002/0089935) in view of Johnson et al (US Patent No. 6,487,181) and further in view of O'Connor (US Patent No. 4,677,617).

As per claim 8, the rejection of claim 6 is incorporated. Johnson teaches the subinterval of the time interval (i.e. time slot) **[Fig. 2, col. 3 62-67, col. 4 lines 1-2]**. Ragavan, Chan and Johnson don't expressively mention that the first subinterval preceding the second subinterval *by one subinterval.*

However, O'Connor teaches that first subinterval preceding the second subinterval *by one subinterval* **[Fig. 2, k-1 interval, k interval and k+1 interval (i.e. subinterval preceding by one subinterval)]**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of O'Connor into the teaching of Ragavan, Chan and Johnson to determine the number of time intervals of the present interval of system time or network time. The modification would be obvious because one of ordinary skill in the art would be motivated to achieve time synchronization between frequency hopping network communication units **[O'Connor, *col. 4 lines 30-39*]**.

As per claim 27, the rejection of claim 25 is incorporated and further claim 27 is an apparatus claim corresponds to method claim 8 and is rejected for the same reason set forth in the rejection of claim 8 above.

Response to Argument

5. Applicant's arguments filed February 13, 2006 have been fully considered but they are not persuasive.

Applicant argues that:

Ragavan/Chan combination fails to disclose determining the metric in accordance with a subinterval of a system time interval in which the information bits are transmitted and Johnson does not teach to determine a metric in accordance with a subinterval of a system time interval in which the information bits are transmitted or to determine the metric in accordance with a first subinterval of a system time interval preceding a

second subinterval of the system time interval by a predetermined number of subinterval. Neither Ragavan, Chan and Johnson (either taken alone or in combination) teach the above-noted deficiencies with regard to claims 1, 6, 20 and 25 of the present invention."

Examiner maintains that:

Ragavan teaches scrambling/unscrambling circuit which provide security in a communication system. Further, Ragavan teaches that determining a scrambling sequence in accordance with a system time (i.e. clock signal) **[*col. 4 lines 27-34* "In the scrambler circuit of FIG. 1, a storage register 10, which may for example comprise a 22-bit storage register, stores the initial scrambling sequence value which is then loaded into a 22-bit PN sequence generator 12 in response to a start pulse. Having been loaded with this value, the sequence generator then proceeds to generate its PN sequence in response to a clock signal" Fig. 1]**; scrambling information bits (i.e. clear text) with the determined scrambling sequence **[Fig. 1] and** unscrambling information bits (i.e. clear text) with the determined unscrambling sequence **[Fig. 2].** Ragavan teaches that determining an unscrambling sequence in accordance with a system time (i.e. clock signal) **[Fig.2]**. Chan teaches the code division multiple access techniques **[paragraph 0001]**. Further, Chan teaches that calculating a metric using one or metrics (i.e. metric of system time) **[*paragraph 0047, lines 1-5*]** and the system time metric is a timing adjustment made for a given interval (i.e. metric in accordance with interval) **[paragraph 0054]**. Johnson teaches that

transmitting and receiving information in a time slot of a time division multiplexed wireless communication **[col. 1 lines 8-10]**. Further, Johnson teaches that a *subinterval of a time interval (i.e. time slot or slot)* in which the information bits are to be transmitted and determining the metric in accordance with a subinterval (i.e. time slot) ***[col. 2 line 38, 50-52, col. 8 lines 34-35]*** and a first *subinterval of a system time interval* preceding a second subinterval of the system time interval by a pre-determined number of subintervals **[Fig. 2, col. 3 lines 62-67, col. 4 lines 1-2]**, the second subinterval including information bits (user information) **[Fig. 2, col. 3 lines 65-67]** and determining the metric in accordance with subinterval (*i.e. time slot or slot)* ***[col. 8 lines 34-35, col. 2 lines 50-52]*.**

In response to applicant's argument, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with the applicant was concerned, in order to be relied upon as basis for rejection of the claimed invention. See *In re Ortiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). Furthermore, the examiner recognizes that obviousness can only be established by combining or modifying the teaching of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to on of ordinary skill in the art. See *In re Fine*, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ 2nd 1941 (Fed. Cir 1992). In this case, the combination of Ragavan, Chan and Johnson teach the claimed subject matter and the combination is sufficient.

Conclusion

6. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nirav Patel whose telephone number is 571-272-5936.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax and phone numbers for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

NBP
4/5/6

HOSUK SONG
PRIMARY EXAMINER